CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/W.No.01/BMS/CSR-02/1082b/CEMENT/2015-16 Date: 01.03.2016

TEST REPORT ON CEMENT

* CUSTOMER	:	**Asst. Executive Engineer,** Yelahanka Sub Division, BBMP, Bangalore.
*AGENCY	:	**Mr. B.M. Srinivasa,** No. 17, Kurubarahalli Main Road, Mahalakshmipuram Post, Bangalore.
*NAME OF THE WORK	:	Construction of drain at Kondappa garden in Ward No. 01 of Yelahanka Sub Division, BBMP, Bangalore.
REFERENCE	:	AEE/BBMP/YSD/AE-1/40/2015-16 Dated: 26.02.2016
SAMPLE ID	:	Cement
SAMPLE RECEIVED ON	:	26.02.2016
PERIOD OF TESTING	:	26.02.2016 to 01.03.2016

The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988(RA-2009)	28.00 %	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988(RA-2009)	190 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988(RA-2009)	475 Minutes	Not More than 600 Minutes
3	Soundness by Le Chartlier Method	IS-4031 (Part-3) 1988(RA-2009)	1 mm	Not more than 10mm

*Information is furnished by the Customer/Representative.

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T-2377

Job No.: CTCE/BBMP/W.No.01/BMS/CSR-02/1082b/SAND-Gradation/2015-16 : 01.03.2016

TEST REPORT ON DETERMINATION GRADATION OF FINE AGGREGATES

* Customer	: **Asst. Executive Engineer,** Yelahanka Sub Division, BBMP, Bangalore.
* Agency	: **Mr. B.M. Srinivasa,** No. 17, Kurubarahalli Main Road, Mahalakshmipuram Post, Bangalore.
* Name of Work	: Construction of drain at Kondappa garden in Ward No. 01 of Yelahanka Sub Division, BBMP, Bangalore.
Reference	: AEE/BBMP/YSD/AE-1/40/2015-16 Dated: 26.02.2016
Technical Reference	: IS : 2386 Part 1 - 1963 RA-2007
Sample ID	: Fine Aggregates
Sample Received on	: 26.02.2016
Date of Testing	: 01.03.2016

Total Wt. of Aggregates in gms **1000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Spec.Limits as per IS 383-1970 (RA- 2007)			
		Zone-I	Zone-II	Zone-III	Zone-IV
10	100	100	100	100	100
4.75	94.25	90-100	90-100	90-100	95-100
2.36	76.99	60-95	75-100	85-100	95-100
1.18	58.12	30-70	55-90	75-100	90-100
600 Micron	36.09	15-34	35-59	60-79	80-100
300 Micron	14.55	5-20	8-30	12-40	15-50
150 Micron	3.93	0-10	0-10	0-10	0-15

* Information is furnished by the Customer/Representative

Remarks : This sample is under Zone-II specific limits.

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Job No.: CTCE/BBMP/W.No.01/BMS/CSR-02/1082b/AGG/GR/2015-16 : 01.03.2016

TEST REPORT ON COARSE AGGREGATES

* Customer	: **Asst. Executive Engineer,** Yelahanka Sub Division, BBMP, Bangalore.
* Agency	: **Mr. B.M. Srinivasa,** No. 17, Kurubarahalli Main Road, Mahalakshmipuram Post, Bangalore.
* Name of Work	: Construction of drain at Kondappa garden in Ward No. 01 of Yelahanka Sub Division, BBMP, Bangalore.
Reference	: AEE/BBMP/YSD/AE-1/40/2015-16 Dated: 26.02.2016
Technical Reference	: IS : 2386 Part 1 -1963 RA-2007
Sample ID	: Coarse Aggregates (40mm)
Sample Received on	: 26.02.2016
Date of Testing	: 01.03.2016

Total Wt. of Aggregates in gms= 10000

Is Sieve Size in mm	Cumulative Weight Passing in %	Spec.Limits as per IS 383-1970 (RA- 2007)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	96.84	95-100	85-100
20	34.33	30-70	0-20
10	12.17	10-35	0-5
4.75	1.63	0-5	-

* Information is furnished by the Customer/Representative

Remarks : This sample is under Graded specific limits.

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Job No.: CTCE/BBMP/W.No.01/BMS/CSR-02/1082b/AGG/GR/2015-16 : 01.03.2016

TEST REPORT ON COARSE AGGREGATES

* Customer	: **Asst. Executive Engineer,** Yelahanka Sub Division, BBMP, Bangalore.
* Agency	: **Mr. B.M. Srinivasa,** No. 17, Kurubarahalli Main Road, Mahalakshmipuram Post, Bangalore.
* Name of Work	: Construction of drain at Kondappa garden in Ward No. 01 of Yelahanka Sub Division, BBMP, Bangalore.
Reference	: AEE/BBMP/YSD/AE-1/40/2015-16 Dated: 26.02.2016
Technical Reference	: IS : 2386 Part 1 -1963 RA-2007
Sample ID	: Coarse Aggregates (20mm)
Sample Received on	: 26.02.2016
Date of Testing	: 01.03.2016

Total Wt. of Aggregates in gms= **5000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Spec.Limits as per IS 383-1970 (RA- 2007)	
		Graded	Single Sized
40	100	100	100
20	96.36	95-100	85-100
10	28.04	25-55	0-20
4.75	2.26	0-10	0-5

* Information is furnished by the Customer/Representative

Remarks : This sample is under Graded specific limits

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Job No.: CTCE/BBMP/W.No.01/BMS/STEEL/2015-16 01.03.2016

TEST REPORT ON REINFORCEMENT STEEL

Customer : **Asst. Executive Engineer,** Yelahanka Sub Division, BBMP, Bangalore.

Agency : **Mr. B.M. Srinivasa,** No. 17, Kurubarahalli Main Road, Mahalakshmipuram Post, Bangalore.

Name of the Work : Construction of drain at Kondappa garden in Ward No. 01 of Yelahanka Sub Division, BBMP, Bangalore.

Reference : AEE/BBMP/YSD/AE-1/40/2015-16 Dated: 26.02.2016

Date of Test : 01.03.2016

Technical Reference : IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm²	Tensile strength (Ultimate stress) N/mm²	Elongation percent gauge length		
1	8	0.40	511	553	13.05	O.K	O.K

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Job No.: CTCE/BBMP/W.No.01/BMS/STEEL/2015-16 01.03.2016

TEST REPORT ON REINFORCEMENT STEEL

Customer	:	**Asst. Executive Engineer,** Yelahanka Sub Division, BBMP, Bangalore.
Agency	:	**Mr. B.M. Srinivasa,** No. 17, Kurubarahalli Main Road, Mahalakshmipuram Post, Bangalore.
Name of the Work	:	Construction of drain at Kondappa garden in Ward No 01 of Yelahanka Sub Division, BBMP, Bangalore.
Reference	:	AEE/BBMP/YSD/AE-1/40/2015-16 Dated: 26.02.2016
Date of Test	:	01.03.2016
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm²	Tensile strength (Ultimate stress) N/mm²	Elongation percent gauge length		
1	10	0.62	514	557	13.20	O.K	O.K

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Job No.: CTCE/BBMP/W.No.01/BMS/CSR-02/1082b/Precast Slab/2015-16 21.03.2016

CEMENT CONCRETE CORE (PRECAST SLAB) TEST REPORT

* Customer	:	**Asst. Executive Engineer,** Yelahanka Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. B.M. Srinivasa,** No. 17, Kurubarahalli Main Road, Mahalakshmipuram Post, Bangalore.
* Name of work	:	Construction of drain at Kondappa garden in Ward No. 01 of Yelahanka Sub Division, BBMP, Bangalore.
Reference	:	AEE/BBMP/YSD/AE-1/40/2015-16 Dated: 26.02.2016
Techinical Reference	:	IS:516-1959 (Reaffirmed 2008), SP-24:1983.
Sample ID	:	Precast Covering Slab
Sample Received on	:	17.03.2016
Date of Testing	:	21.03.2016

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	50.00	76.00	0.376	2519.67	1.52	0.960	32.5	16.57	17.90	17.18	21.48
2	50.00	78.00	0.387	2526.89	1.56	0.965	32.6	16.58	17.91	17.28	21.60
3	50.00	77.00	0.385	2546.48	1.54	0.955	32.8	16.69	18.03	17.22	21.52

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Job No.: CTCE/BBMP/W.No.01/BMS/CSR-02/1082b/CUBE/2015-16 16.03.2016

TEST REPORT ON COMPRESSIVE STRENGTH OFCONCRETE CUBES

* Customer	: **Asst. Executive Engineer,** Yelahanka Sub Division, BBMP, Bangalore.
* Agency	: **Mr. B.M. Srinivasa,** No. 17, Kurubarahalli Main Road, Mahalakshmipuram Post, Bangalore.
* Name of the work	: Construction of drain at Kondappa garden in Ward No. 01 of Yelahanka Sub Division, BBMP, Bangalore.
Reference	: AEE/BBMP/YSD/AE-1/40/2015-16 Dated: 26.02.2016
* Sample ID	: Cement Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
* Grade of Concrete	: M_{20}
Compressive Strength as on	: 7^{th} day
Sample Received on	: 16.03.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	09.03.2016	16.03.2016	8.139	364.2	16.19
2	09.03.2016	16.03.2016	8.242	395.3	17.57
3	09.03.2016	16.03.2016	8.321	381.4	16.95

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Job No.: CTCE/BBMP/W.No.01/BMS/CSR-02/1082b/CUBE/2015-16 17.03.2016

TEST REPORT ON COMPRESSIVE STRENGTH OFCONCRETE CUBES

* Customer	: **Asst. Executive Engineer,** Yelahanka Sub Division, BBMP, Bangalore.
* Agency	: **Mr. B.M. Srinivasa,** No. 17, Kurubarahalli Main Road, Mahalakshmipuram Post, Bangalore.
* Name of the work	: Construction of drain at Kondappa garden in Ward No 01 of Yelahanka Sub Division, BBMP, Bangalore.
Reference	: AEE/BBMP/YSD/AE-1/40/2015-16 Dated: 26.02.2016
* Sample ID	: Cement Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
* Grade of Concrete	: M_{30}
Compressive Strength as on	: 7^{th} day
Sample Received on	: 17.03.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	10.03.2016	17.03.2016	8.125	352.4	15.66
2	10.03.2016	17.03.2016	8.237	364.7	16.21
3	10.03.2016	17.03.2016	8.169	378.9	16.84

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